Works councils and learning: On the dynamic dimension of codetermination

Jirjahn, Uwe ; Mohrenweiser, Jens ; Backes-Gellner, Uschi

Abstract: This study provides the first econometric analysis on the dynamic dimension of establishment-level codetermination in Germany. We hypothesize that learning implies a change in the nature and scope of codetermination over time. Using unique data from small- and medium-sized establishments, our empirical analysis provides strong evidence that learning indeed plays a crucial role in the functioning of works councils. First, the probability of an adversarial relationship between management and works council is decreasing in the age of the council. Second, the council's age is positively associated with the probability that the council has an influence even on decisions where it has no legal powers. Third, productivity is increasing in the age of the council. Fourth, the quit rate is decreasing in the age of the council. However, the estimates also provide evidence of a codetermination life cycle.

DOI: https://doi.org/10.1111/j.1467-6435.2011.00514.x

KYKLOS, Vol. 64 – August 2011 – No. 3, 427–447

Works Councils and Learning: On the Dynamic Dimension of Codetermination

Uwe Jirjahn, Jens Mohrenweiser and Uschi Backes-Gellner*

1. INTRODUCTION

Works councils have attracted considerable attention as an alternative form of worker representation to improve both the quality of working life and economic performance. They play an important role in corporate governance in many West European countries (Rogers and Streeck 1995). Specifically German works councils have acquired extensive powers compared to councils in other countries.[1] Those powers have even been strengthened by the actively debated 2001 amendment of the Works Constitution Act (WCA), the law that governs the works council system. Works councils play also a role outside Europe. In Korea, mandated councils deal with productivity concerns, employee training, and health and safety issues (Kleiner and Lee 1997). In Canada, nonunion representation has a long tradition. Mandatory health and safety committees have been introduced in several provinces. Furthermore, committees must be set up in case of layoffs and plant closures. Canada's mandatory committees are similar to European works councils (Adams 1985). In the US, the interest in nonunion representation has been spurred by a sharp decline in union density and the growth of a 'representation gap' (Freeman and Rogers 1999). Much of the political discussion in the US has centered on the idea of mandating German-style works councils.

Economists have also shown strong interest in codetermination. This is documented by a remarkably increasing number of econometric studies on the consequences of German works councils. While earlier studies found rather

* Corresponding Author: Uwe Jirjahn, Universität Trier, Fachbereich IV, Lehrstuhl für Arbeitsmarktökonomik, Universitätsring 15, 54286 Trier, Germany, Email: jirjahn@uni-trier.de. Jens Mohrenweiser Centre for European Economic Research, Germany. Uschi Backes-Gellner University of Zürich, Institute for Strategy and Business Economics, Switzerland. This study uses data from the IfM Bonn Works Council Survey which was financially supported by the Hans Boeckler Foundation.

1. Because of their strong codetermination rights it is particularly interesting to examine the economic effects of works councils in Germany (Mohrenweiser et al. 2011). While works councils in other European countries typically have less strong participation rights, only establishment-level codetermination in the Netherlands and Austria comes close to that in Germany.

negative economic effects, recent examinations typically obtain neutral or positive effects on training, employee retention, productivity, innovation, investment, family friendly practices, and the use of performance related pay (Addison et al. 2001, Askildsen et al. 2006, Frick and Moeller 2003, Heywood and Jirjahn 2002, 2009, Huebler and Jirjahn 2003, Jirjahn and Kraft 2007, 2011, Mueller 2011, Smith 2006, Wagner 2008). However, most of the econometric studies treat works councils as a single type of organization by using a simple dummy variable for the presence of a council. In contrast, case studies confirm that councils are in practice heterogeneous (Mueller-Jentsch 1995). There is a range of industrial relations regimes characterized by different interactions of works council and management. In some establishments, councils have extremely adversarial relationships with management. In other establishments, councils play an important role in building cooperative employer-employee relations. While case studies indicate that using a simple dummy variable for the presence of a council may result in misleading estimates, they provide no systematic analysis of the circumstances under which adversarial or cooperative relations between council and management result.

This article provides such an analysis. We examine the role of learning in the functioning of works councils. The dynamic dimension of codetermination has been neglected in economic studies on works councils. Both theoretical and empirical analyses implicitly assume that a council instantaneously lives up to its potential once it has been created. In contrast, we hypothesize that learning implies a change in the nature and scope of codetermination over time. Even though information rights of works councils help reducing information asymmetries between employer and employees, this does not mean that problems of asymmetric information instantaneously disappear. Particularly a newly created council may face information problems. In order to elicit credible information from the employer, the inexperienced council is more likely to use its codetermination rights for conflictual negotiations. As time goes by, learning enables worker representatives to develop the ability to understand production processes and economic issues in more detail. As an experienced council can more easily verify the information provided by management, conflictual negotiations diminish. Furthermore, to the extent the council improves its competence, the influence on decisions is growing. Finally, as experienced worker representatives have a better understanding of the economic situation of the establishment, the employer's incentive to opportunistically manipulate information provided to the employees is reduced. This in turn stimulates workers' effort and cooperativeness. However, we also discuss the role of a codetermination life cycle. Experiences are typically accumulated within organizational routines. Those routines may contribute to increased obsolescence. Thus, the age of the council may have an inversely u-shaped effect on cooperation and performance.

Our empirical analysis yields four key results. First, the probability of an adversarial relationship between management and council is decreasing in the age of the council. Second, the council's age is positively associated with the probability that the council has an influence even on decisions where it has no legal powers. Third, productivity is increasing in the age of the council. Fourth, the quit rate is decreasing in the age of the council. These results provide striking evidence that learning indeed plays a role in the functioning of codetermination. However, our analysis also provides some evidence of a codetermination life cycle. After about thirty years the council's influence on decisions and its effect on productivity decrease to some extent. At the same time the probability of an adversarial relationship with management increases.

While the dynamic dimension of codetermination has been ignored in previous studies on works councils, our analysis is related to a small number of studies examining the dynamic effects of HRM practices. Evidence from Japan (Kato 2006) and the US (Ben-Ner and Lluis 2011) suggests that the scope of employee involvement programs expands as time goes by. Moreover, studies for Denmark (Eriksson 2003), Japan (Jones and Kato 1995, Kato and Morishima 2002) and the US (Helper 1998) show that it takes time for participatory HRM practices to fully deliver higher performance effects.

The rest of the paper is organized as follows. Section 2 presents our theoretical background discussion. Section 3 describes the data and variables. Section 4 presents the results. Section 5 concludes.

2. THEORETICAL BACKGROUND

2.1 Solving Employers' Commitment Problems by Codetermination

Industrial relations in Germany are characterized by a dual structure of employee representation with both unions and works councils. While unions negotiate over wages and general aspects of employment contracts, works councils provide a highly developed mechanism for establishment-level participation.[2] Their rights are defined in the WCA, which was introduced in 1952 and amended in 1972, 1989 and 2001. Workers in establishments with five or more employees may elect council members but the creation of the council depends on the initiative of the workers. Hence, councils are not present in all eligible establishments. Works councils negotiate over a bundle of establishment policies. On some issues they have the right to information and consultation, on others a veto power over management initiatives and on still others the right

2. Note that establishment-level codetermination through works councils is entirely separate from the system of board-level codetermination (FitzRoy and Kraft 2005).

to coequal participation. Works councils have functions that are distinct from those of unions. They do not have the right to strike. Moreover, the WCA does not allow wage negotiations. The aim is to restrict distributional conflicts. Rather works councils are designed to increase joint establishment surplus. They are required to cooperate with management 'in a spirit of mutual trust … for the good of the employees and of the establishment.'

The existence of commitment problems is one explanation as to why work councils may play the role in fostering cooperative industrial relations. There is a variety of situations in which commitment problems of employers can arise. For example, employers can behave opportunistically with respect to the use of information. They may conceal health and safety problems from the workers or may pretend that the economic situation of the firm requires increased worker effort. Moreover, employers may use information obtained from the workers against workers' interest. They may use it for organizational change entailing job loss or intensification of work load.

If commitment problems are not solved, inefficiencies within the establishment will result. Employees anticipating employer opportunism are very likely to withhold effort and cooperation. If information about performance-enhancing innovations is in the hands of employees, they may not wish to reveal it for the fear that the employer might use the information to their disadvantage. Furthermore, information asymmetries can cause workers to refuse concessions even when those concessions are necessary to overcome a crisis of the establishment. If employees do not share the same economic information possessed by management, they may fear that the employer overstates the crisis to demand greater concessions. On the employer's side, low cooperativeness of the workforce results in low productivity and innovativeness. On the employees' side, low cooperativeness implies that workers forego the opportunity of better working conditions.

Theory suggests that worker representation is one way to foster cooperation (Freeman and Lazear 1995, Osterloh and Frey 2006, Smith 2006). Providing a council with information rights helps reducing information asymmetries. This makes it easier to verify the employer's claims. Moreover, providing the council with codetermination rights helps avoiding that the employer unilaterally takes actions without considering workers' interests. Hence, works councils have the potential to realize mutual gains for employers and employees by solving commitment problems.

2.2 The Role of Learning

However, from a theoretical point of view, there is no mechanical relationship between codetermination and cooperative employer-employee relations. It is

not very likely that once created a works council instantaneously lives up to its potential. Several reasons suggest that learning plays an important role in the functioning of codetermination.

Even though information rights help reducing information asymmetries, this does not mean that these asymmetries instantaneously and completely disappear once the council has been created. If the establishment opens its books to a newly created works council, this information may be only of limited relevance. Information on the past and recent economic situation of the establishment only partly reveals information on future prospects (Kennan and Wilson 1993). Hence, the employer may still have private information on predictions of demand and production. Moreover, information on actual costs does not reveal information on opportunity costs. The employer may still have private information on the opportunities to redeploy capital in other locations or industries, or to substitute capital for labor. Altogether, managers still have opportunities to use remaining information advantages strategically.

However, the WCA provides the works council also with codetermination rights. These rights strengthen workers' bargaining power and imply increased scope for negotiations between workforce and management. The crucial point is that negotiations can be seen as a learning process (Cross 1977). Recent bargaining models show that conflict plays an important role in such learning process (Cramton and Tracy 2003, Kennan and Wilson 1993). This insight can be applied to codetermination. Works councils can use their codetermination rights to elicit credible information from the employers by delaying decisions. The council may demand extensive consultations when the employer contends that ensuring the establishment's competitiveness requires higher effort of the workforce. Managers' willingness to enter conflictual negotiations serves as a signal of their credibility. Conflict as a method to elicit credible information is particularly important when there are substantial information asymmetries between the employer and the council. This is more likely to hold true in case of a newly created works council. In that case, worker representatives have little experience and face difficulties in verifying the employer's claims.

Codetermination may change in its nature and scope as time goes by. Participation in decision making involves learning by doing. During consultation and negotiation with management, the works council elicits valuable information. This allows accumulating long-term relevant experience. Learning enables the council to develop over time the ability to understand the production process and the economic situation of the establishment in more detail. Hence, information asymmetries between management and works council diminish. As the council can more easily verify new information provided by management, conflictual negotiations are less likely to occur over time. Diminishing conflicts imply that less time is lost due to delays in decision making.

Of course, the learning process entailed by codetermination is not one-sided. The employer will also change his attitudes and behavior as time goes by. Because the works council is initially inexperienced, the employer may have a higher incentive to behave opportunistically with respect to a newly created council. The employer's incentive to strategically manipulate information is reduced if he learns that an experienced works council can more easily verify his claims. Instead of strategic manipulation and adversarial bargaining, the employer is more likely to rely on building trust and cooperation with the works council. This in turn implies that workers' effort and cooperativeness increase. Similarly, Lorenz (1999) argues that the WCA provides a procedural framework fostering reciprocal trust building. Employer and employees do not only learn about the surrounding environment but also about each other. This learning process may follow a 'step-by-step' rule. Employer and works council start by making small commitments to each other and then increase their commitments depending on the quality of their interactions. This implies that the positive effect of codetermination on employer-employee cooperation and establishment performance should grow over time.

The learning process should also entail an increasing influence of the works council. While an inexperienced council is likely to rely on conflict to obtain credible information, its influence on decision may be limited in the end. As the council lacks experience, it may face difficulties in providing own solutions. Moreover, if management fears that an inexperienced council may harm the quality of decisions, it will try to ignore the council. However, to the extent the council accumulates experience, it can come up with own valuable ideas. If management recognizes that the council can contribute to economic performance, it will ask the council to participate in a wider range of decisions.

In summary, theoretical considerations suggest that the consultations and negotiations entailed by codetermination provide the framework for a unique learning process. This process has important implications. While codetermination initially may involve increased conflicts, adversarial negotiations between management and works council will diminish in the course of time. Moreover, the influence of the works council on decisions and its positive effect on establishment performance should increase over time. Of course, learning is no guarantee that cooperative industrial relations are always achieved. The crucial point is that learning should make those relations more likely.

2.3 A Possible Codetermination Life Cycle

Building on theories of organizational learning (Crossan et al. 1999, Sorensen and Stuart 2000), it can be argued that routines play a role in the learning process entailed by codetermination. Lessons from past interactions of works

council and management are accumulated within routines. Those routines include procedures, conventions and the structure of beliefs. Management and council gradually adopt routines that lead to favorable outcomes. Routines form a memory of the firm that is maintained despite the turnover of individual managers and works councilors. New managers and works councilors learn the routines through a process of socialization. However, routines are not simply the result of accumulated experiences. Once established, they guide further learning. The search for new solutions typically occurs in the neighborhood of already existing routines. On the one hand, this leads to a refinement of existing routines. On the other hand, this repeated use may contribute to increased inertia and obsolescence (Sorensen and Stuart 2000, Thornhill and Amit 2003). Previously successful routines may be relied upon inappropriately in novel situations that require substantial change.

This may imply a codetermination life cycle (Strauss 2006). Up to a certain point the scope and the performance effects of codetermination are increasing in the age of the works council. Yet, beyond that point they decrease as time goes by. To provide an example, the way how to aggregate and represent workers' preferences is likely to be an important part of the works council's routines. A codetermination life cycle would imply that the council's established practices of representing worker interests may become less effective beyond a certain point in time. Indeed, studies by Addison et al. (2007) and Jirjahn and Tsertsvadze (2006) indicate that worker organizations in Germany face difficulties in adjusting to changing workforce structures and new work arrangements.

3. DATA AND VARIABLES

3.1 Data Set

We use data from the IfM Bonn Works Council Survey conducted by the Small and Medium Size Enterprise Research Institute (Institut für Mittelstandsforschung – IfM). The survey provides a data set of small- and medium-sized establishments in Germany (Schloemer et al. 2007). The data were collected in 2005 on the basis of a questionnaire sent to the owner or top manager of the establishment. They are representative of establishments with 20 to 500 employees. Our data set is unique in that it has a strong focus on establishment-level codetermination. Specifically, it contains information on the year the workforce of the establishment has introduced a works council.[3]

3. Previous studies on works councils used the Hanover Panel or the IAB Establishment Panel. However, those data are not helpful in addressing the question of our study. The Hanover Panel contains no information on the age of the council while the information contained in the IAB Establishment Panel is highly incomplete. Even though the data set to some extent allows calculating the age of works

Table 1

Variable Definitions and Descriptive Statistics of the Dependent Variables

Variable	Description	Establishments With Works Council Mean, Std.dev	Establishments Without Works Council Mean, Std.dev.
Bad Relation	Dummy variable equal to 1 if management views the relationship with the works council as being bad.	.0996, .3001 ($N = 241$)	–
Strong Influence	Dummy variable equal to 1 if the works council is involved in decisions even where it has no legal powers.	.3609, .4813 ($N = 241$)	–
LnProductivity	Log of sales (in Euros) per employee.	11.85, 1.034 ($N = 222$)	11.39, 1.028 ($N = 298$)
Quit Rate	Number of quits by workers during the last year divided by the number of total employees.	.0196, .0236 ($N = 236$)	.0259, .0284 ($N = 302$)

Information on the variables *Bad Relation* and *Strong Influence* is only available for establishments where a works council is present.

3.2 Dependent Variables

Table 1 shows the definitions of the dependent variables and their descriptive statistics. We use two indicators of the quality of industrial relations. These indicators are only available for establishments with a works council. The first variable is a dummy equal to 1 if management views the relationship with the works council as being bad. Bad relationships between management and councils are reported by 10 percent of the respondents. The second variable is a dummy equal to 1 if the council is involved in decisions even where it has no legal powers. Works councils have such strong influence on decisions in 36 percent of the establishments.

Moreover, we use two indicators of establishment performance. The performance effects of works councils have attracted remarkable interest. Specifically, the link between works councils and establishment output has been widely examined. We measure the establishment's output by the log of productivity with productivity being defined as sales per employee. The link between worker representation and personnel turnover has also been of great

councils introduced after 1993, this is unsatisfactory for several reasons. First, as the question on the presence of a works council is not asked regularly in every wave, it is not possible to calculate the exact age of every council that has been newly created. Second, given the relatively short time span of the IAB Establishment Panel one could only examine rather young works councils. Third, the introduction of a council is a relatively rare event. The overwhelming majority of establishments do not change their works council status. Hence, focusing on young works councils implies that we would only have a handful of observations.

interest. We use the rate of quits by workers as an inverse performance indicator. A low quit rate indicates high job satisfaction and the willingness of workers to provide effort and to invest in their firm-specific human capital.

3.3 *Explanatory Variables*

The definitions of the explanatory variables and their descriptive statistics are shown in Table 2. Importantly, the survey asks the year in which the works council has been introduced by the workforce. Hence, we can calculate the age

Table 2

Variable Definitions and Descriptive Statistics of the Explanatory Variables

Variable	Description	Establishments With Works Council Mean, Std.dev.	Establishments Without Works Council Mean, Std.dev.
Age of works council	Time span between the year 2005 and the year the works council has been introduced by the workforce.	19.24, 16.33	–
(Age of works council)^2	Squared age of the works council.	635.5, 892.7	–
Size	Number of total employees in the establishment.	185.5, 121.9	99.22, 126.95
Size^2/1000	Squared number of total employees in the establishment divided by 1000.	49.21, 56.14	14.81, 34.27
LnSize	Log of the number of total employees in the establishment	4.94, .8300	4.11, .8100
University graduates	University graduates as a proportion of total employees.	1737, .2182	.1676, .2248
Skilled blue-collar employees	Blue-collar employees with apprenticeship training as a proportion of total employees.	.2463, 2401	.2038, .2399
Skilled white-collar employees	White-collar employees with apprenticeship training as a proportion of total employees.	.3530, .2323	.3716, .2638
Part-time employees	Part-time employees as a proportion of total employees.	.2106, .3041	.2178, .2987
Female employees	Women as a proportion of total employees.	.3703, .3309	.405, .2880
Strong support by workforce	Dummy variable equal to 1 if the workforce strongly supports the works council.	.2796, .4498	–
Modest support by workforce	Dummy variable equal to 1 if the workforce modestly supports the works council.	.6610, 4744	–
Direct participation	Dummy variable equal to 1 if there exist direct forms of worker involvement in decision making.	.4195, .4945	.3212, .4677
Managed by successor	Dummy variable equal to 1 if the establishment is managed by an active owner who is not the founder of the establishment.	.2161, .4125	.3377, .4737

Table 2. (Contd)

Variable	Description	Establishments With Works Council Mean, Std.dev.	Establishments Without Works Council Mean, Std.dev.
Managed by founder	Dummy variable equal to 1 if the establishment is managed by an active owner who founded the establishment.	.1483, .3562	.4470, .4980
Collective agreement	Dummy variable equal to 1 if the establishment is covered by a collective bargaining agreement.	.5889, .4931	.2583, .4384
Strong influence of unions	Dummy variable equal to 1 if unions have strong influence on the works council.	.4407, .4975	–
Modest influence of unions	Dummy variable equal to 1 if unions have a modest influence on the works council.	.2118, .4095	–
Employment growth	Dummy variable equal to 1 if the establishment experienced a positive employment growth during the last three years.	.2831, .4515	.3642, .4820
Subsidiary	Dummy variable equal to 1 if the establishment is a subsidiary.	.1610, .3683	.0927, .2905
East Germany	Dummy variable equal to 1 if the establishment is located in East Germany.	.2288, .4209	.1887, .3920
	N	236	302

Information on the variables *Age of Works Council, (Age of Works Council)*^{2}*, Strong Support by Workforce, Modest Support by Workforce, Strong Influence of Unions*, and *Modest Influence of Unions* are only available for establishments where a works council is present.

of the council. The average age in the sample is 19 years. The age of the works council is our explanatory variable of primary interest. Our theoretical considerations imply that the age of the works council should be negatively associated with personnel turnover and the probability of bad relations between council and management. It should be positively associated with the council's influence on decisions and establishment output. In order to investigate the role of a possible codetermination life cycle, we also include the squared age.

The data provide a rich set of control variables. Establishment size is captured by the number of employees. While theory suggests a positive relationship between size and output, the effect on the quality of industrial relations is less clear. A council may mitigate transaction costs in large establishments, where the need for communication is higher. This implies a stronger influence of the councils. On the other hand, large establishments are more hierarchical. This may limit the influence of the council.

The structure of the workforce is accounted for by variables for the proportion of university graduates, skilled white-collar employees, skilled blue-collar employees, part-time employees, and women. The qualification

of the workforce should have a positive effect on the establishment's productivity. Moreover, high shares of qualified workers should be associated with reduced personnel fluctuation as establishments typically use internal labor markets to bind highly qualified employees. The workforce is also likely to play a role in the quality of industrial relations. The works council's influence on decisions should depend on the support by the employees. Thus, we include two dummy variables for a strong or modest support provided by the workforce.

We also take into account that councils are part of a broader industrial relations system that involves worker representation through unions. First, we include a dummy for collective bargaining coverage. Second, dummies for a strong or modest influence of unions on the works council are included. Support by unions should increase the council's influence on decisions. The influence of unions may even strengthen the productive role of works councils. Industry-level bargaining reduces distributional conflicts at the establishment level (Heywood et al. 1998). Moreover, unions may provide the councils with expertise to strengthen their position against opportunistic employers.

The managerial environment is captured by variables for the presence of active owners. First, an indicator for establishments managed by its founders is included. Second, we include a variable for establishments managed by active owners who are not the founders. Theoretical models (Singell and Thornton 1997) and empirical findings (Benz and Frey 2004) suggest that active owners gain utility from being the ultimate bosses. As codetermination limits their discretionary power, active owners are likely to restrict the council's influence. This might even entail a positive view toward the council if the autocratic style of leadership involves a quiet life for the active owners. Active ownership may also have an effect on performance. On the one hand, it may involve reduced agency problems. On the other, it may imply that owners forego the opportunity to implement a high-ability management (Bennedsen et al. 2007).

We also include a dummy for direct worker involvement in decision making. Direct worker participation is often viewed as a substitute for codetermination. Thus, it may undermine the council's influence. However, from a theoretical view point, direct worker involvement and codetermination may be rather complementary. Direct worker involvement does not necessarily solve commitment problems. While managers may ex ante promise to delegate authority, they may ex post be tempted to overrule employees' decisions. A council can ensure that promises made are kept.

Further, variables for establishments located in East Germany and establishments that are subsidiaries of multi-establishment firms are included. Five industry dummies for manufacturing, construction, retail, logistic and communication, services for companies, and services for privates account for variations in the nature of what is being produced. Finally, a dummy for positive employment growth in the last three years is included. While a council may be important

for rebuilding trust in establishments with declining employment (Jirjahn 2009, 2010), this is not likely to occur without conflict. Thus, growth should reduce the probability of a bad relationship between council and management.

4. EMPIRICAL RESULTS

4.1 Intra-Establishment Industrial Relations

Table 3 provides estimates of the determinants of intra-establishment industrial relations. The determinants were estimated with the probit procedure. Note that these estimates are restricted to establishments with works councils as the dependent variables specifically measure the quality of the relationship between management and works council.

Many of the control variables take statistically significant coefficients of the expected sign. Managers in establishments with positive employment growth

Table 3

Determinants of Intra-Establishment Industrial Relations

Dependent Variables Explanatory Variables	(1) Bad Relation Method: Probit ML	(2) Strong Influence Method: Probit ML
Age of works council	− .0694 (2.20)**	.0691 (3.25)***
(Age of works council)^2	.0013 (2.24)**	− .0011 (2.81)***
Size	.0044 (0.94)	− .0064 (2.15)**
Size^2/1000	− .0062 (0.65)	.0113 (1.78)*
University graduates	− .9204 (1.07)	.2554 (0.43)
Skilled blue-collar employees	− .5178 (0.54)	− .1236 (0.21)
Skilled white-collar employees	1.5938 (1.98)**	− .5311 (0.96)
Part-time employees	− .3415 (0.65)	.0331 (0.09)
Female employees	− 1.3356 (1.33)	− .0006 (0.01)
Strong support by workforce	− 2.5611 (4.27)***	2.2235 (4.09)***
Modest support by workforce	− 1.269 (2.73)***	1.326 (2.57)**
Direct participation	− .4013 (1.42)	− .1078 (0.54)
Managed by successor	− 1.6092 (3.46)***	− .8538 (3.16)***
Managed by founder	.2309 (0.55)	− .0199 (0.08)
Collective agreement	− .0609 (0.19)	.3539 (1.68)*
Strong influence of unions	.8971 (2.45)**	.2673 (1.11)
Modest influence of unions	.1379 (0.33)	.3958 (1.40)
Employment growth	− 1.1899 (3.88)***	.1949 (0.93)
East Germany	− .2757 (0.76)	.3572 (1.41)
Subsidiary	.3896 (0.88)	− .4416 (1.60)*
Constant	− .1758 (0.20)	− 1.853 (2.42)**
Industry dummies	Yes	Yes
Pseudo R^2	.34	.20
N	241	241

The regressions are based on the subsample of establishments with a works council. Robust T-statistics are in parentheses. ***Statistically significant at 1%; **statistically significant at 5%; *statistically significant at 10%.

during the last three years are less likely to report a bad relationship with the works council. This suggests that there is less potential for conflicts in prospering establishments. Establishment size is negatively associated with a strong influence of the works council. As larger establishments are more bureaucratic organizations, opportunities to influence decisions may be more limited. Support by the workforce is significantly associated with a lower probability of a bad relation between council and management and a higher probability that the council has a strong influence on decisions. Further, the share of skilled white-collar workers is a positive determinant of a bad relationship between council and management. White-collar workers are often thought to be individualistic. Hence, a high share of white-collar workers indicates a heterogeneous workforce.

The broader industrial relations system and the managerial environment also play a role. Collective bargaining is positively associated with a high influence of the council while strong union support of the council increases the likelihood of a bad relationship with management. Interestingly, the presence of active owners who are not the founders of the establishment is a negative covariate of both a strong influence of the council and a bad relation between council and management. Those types of active owners may gain specifically high utility from being the ultimate bosses within the establishment and, hence, try to limit the council's influence. Isolating the council may result in a quiet life for the active owners implying a more positive view of the relation with the council.

Turning to the explanatory variable of primary interest, the age of the works council is significantly associated with both indicators of the quality of intra-establishment industrial relations. In the regression on a bad relationship between council and management, the coefficient on the linear term is significantly negative while the coefficient on the squared term is significantly positive. The size of the estimated coefficients implies that the probability of a bad relationship is decreasing in the age of the works council up to 27 years. This supports the view that learning plays a role in the functioning of establishment-level codetermination. Cooperation between works council and management appears to be increasing for a remarkably long time. However, afterwards the probability of a bad relationship is increasing in the age of the council. This can be seen as evidence of a participation life cycle.

In the regression on the influence of the council, the coefficient on the linear age variable is significantly positive while the coefficient on the squared term is significantly negative. The size of the estimated coefficients implies that the probability of a strong influence is increasing in the age of the works councils up to 32 years. This provides further support for the hypothesis that the dynamic dimension of codetermination plays an important role. The council's influence on decisions appears to be increasing for a very long time. However, afterwards it is decreasing. Hence, also this regression provides evidence of a participation life cycle.

Table 4

Projections on Intra-Establishment Industrial Relations

Dependent Variables Age of Works Council	(1) Projected Probability of Bad Relations	(2) Projected Probability of a Strong Influence
1	.044	.144
5	.026	.209
10	.016	.276
20	.006	.429
30	.005	.489
40	.009	.465
50	.026	.356

The probabilities of a bad relation with management are projected using the estimated coefficients in column (1) of in Table 3. The probabilities of a strong influence are projected using the estimated coefficients in column (2) of Table 3. All of the other control variables are assumed to be at their mean level.

Altogether, for about 30 years both the probability of a cooperative relationship with management and the probability of a strong influence on decisions are increasing in the age of the works council. This indicates that a remarkable learning process is at work. An impression of the magnitude of the effect can be obtained by using the estimated coefficients to project the probabilities. Table 4 provides the projections for different ages of the works council. All of the control variables are assumed to be at their mean level. As shown in column (1), the initial probability of a bad relationship with management is about 4.4 percent. This probability decreases roughly by two third within the first ten years. After thirty years it is only half a percent. While the probability of a bad relationship is increasing after this point, it is below its initial value even for a fifty-year-old works council. Column (2) provides the projections on the influence of the council. The initial probability of a strong influence is about 14 percent. It increases roughly by two fifth within the first ten years. After thirty years this probability is almost 50 percent. Even though the probability of a strong influence is decreasing thereafter, it appears to be substantially higher than its initial level for a long time. The probability is roughly 36 percent for a fifty-year-old council.

4.2 Establishment Performance

We now turn to the indicators of establishment performance. Columns (1) to (3) of Table 5 provide OLS estimates of the determinants of the log of productivity. Establishments in East Germany appear to be less productive than those in West Germany. The share of university graduates is a positive and the share of female employees a negative covariate of productivity. Interestingly, both variables for active owners are significantly negative determinants. Further, the estimates

Table 5

Determinants of Establishment Performance

Dependent Variables	LnProductivity (Method: OLS)			Quit Rate (Method: Tobit ML)		
Explanatory Variables	(1)	(2)	(3)	(4)	(5)	(6)
Works Council	.2356	− .0731	–	− .0010	.0061	–
	(2.52)**	(0.59)		(0.30)	(1.12)	
Age of works council	–	.0305	.0276	–	− .0007	− .0008
		(2.54)**	(2.04)**		(1.71)*	(2.15)**
(Age of works council)^2	–	− .0004	− .0004	–	.000001	.00001
		(2.06)**	(1.82)*		(1.34)	(1.62)
LnSize	− .0271	− .0509	.0959	.0010	.0017	.0025
	(0.56)	(1.03)	(1.06)	(0.66)	(1.06)	(1.06)
University graduates	1.1422	1.1458	1.055	− .0253	− .0252	− .0227
	(4.20)***	(4.24)***	(2.38)**	(2.85)***	(2.82)***	(1.95)*
Skilled blue-collar employees	.2945	.2826	− .1948	− .0332	− .0333	− .0267
	(1.21)	(1.17)	(0.43)	(3.84)***	(3.86)***	(2.47)**
Skilled white-collar employees	1.0722	1.0304	.5884	− .0233	− .0222	− .0077
	(4.27)***	(4.16)***	(1.21)	(2.79)***	(2.67)***	(0.80)
Part-time employees	− .1139	− .1132	− .2490	.0123	.0122	.0097
	(0.68)	(0.69)	(1.03)	(2.80)***	(2.79)***	(1.79)*
Female employees	− .9762	− .9760	− .8734	.0143	.0139	.0218
	(4.55)***	(4.57)***	(2.40)**	(1.98)**	(1.95)*	(2.58)**
Direct participation	.0736	.0854	.1282	.0012	.0011	− .0032
	(0.86)	(1.00)	(1.03)	(0.45)	(0.38)	(0.81)
Managed by successor	− .3105	− .3169	− .4005	− .0032	− .0032	− .0076
	(2.77)***	(2.81)***	(2.60)**	(0.94)	(0.93)	(1.60)
Managed by founder	− .3139	− .3213	− .4183	− .0002	− .0001	− .0057
	(3.03)***	(3.14)***	(2.33)**	(0.05)	(0.04)	(0.95)
Collective agreement	− .03642	− .0456	− .0463	− .0038	− .0035	− .0065
	(0.43)	(0.54)	(0.38)	(1.26)	(1.16)	(1.74)*
East Germany	− .2150	− .1887	− .2567	− .0007	− .00014	− .0017
	(2.48)**	(2.19)**	(1.49)	(0.23)	(0.43)	(0.40)
Subsidiary	− .0349	− .0005	.0841	− .0088	− .0098	− .0087
	(0.29)	(0.00)	(0.50)	(2.38)**	(2.65)***	(1.77)*
Strong influence of unions	–	–	.2646	–	–	.0018
			(1.71)*			(0.41)
Modest influence of unions	–	–	.4784	–	–	− .0077
			(2.00)**			(1.56)
Strong support by workforce	–	–	.0768	–	–	− .0009
			(0.27)			(0.16)
Modest support by workforce	–	–	− .1294	–	–	.0039
			(0.51)			(0.72)
Constant	11.92	12.00	11.40	.0204	.0183	.0232
	(38.78)***	(38.78)***	(24.35)***	(1.98)**	(1.68)*	(1.41)
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes
R^2	.37	.38	.36	–	–	–
Pseudo R^2	–	–	–	.07	.08	.10
N	520	520	222	538	538	236

Regressions (1), (2), (4) and (5) are based on the full sample of establishments. Regressions (3) and (6) are based on the subsample of establishments with a works council. Robust T-statistics are in parentheses. ***Statistically significant at 1%; **statistically significant at 5%; *statistically significant at 10%.

show that support by unions is positively associated with productivity. This fits the view that a strong council is more effective in increasing establishment performance. However, moderate support by unions has the highest effect.

In regression (1), we use the full sample of establishments and include a dummy variable for the presence of a works council. This is the typical approach found in the literature. The estimation confirms that the presence of a works council is positively associated with productivity. However, our theoretical considerations suggest that the effects of establishment-level codetermination are dynamically heterogeneous. Hence, we add the age of the works council and its square. The results shown in column (2) are again based on the full sample of establishments. For those establishments without a works council, the age variables are set equal to zero. The regression shows that the dynamic dimension of codetermination also plays a role in the establishment's productivity. While the simple dummy variable for the presence of a council is no longer a significant determinant, the two age variables take statistically significant coefficients. The linear age variable emerges with a positive coefficient while the squared term takes a negative coefficient. This implies that the council's age has an inversely u-shaped influence on productivity. In regression (3), we restrict the sample to establishments where a works council is present.[4] This regression also shows an inversely u-shaped relationship between the age of the council and the establishment's productivity. Productivity is increasing in the council's age up to 35 years, after which it starts to fall. Altogether, also the productivity regressions provide evidence of both the importance of a long-term learning process and the role of a codetermination life cycle.

In column (1) of Table 6, we use the estimated coefficients of regression (3) to calculate projections. The projections confirm that the influence of the dynamic dimension of codetermination is also economically significant. On average initial productivity is about 110000 Euros. After a works council has been created, productivity increases by roughly one quarter within the first ten years. Compared to the initial level, a thirty-year-old council is associated with an increase in productivity by about one half. Even though the positive effect of establishment-level codetermination is decreasing thereafter, it remains substantial for a long time. Compared to the initial level, productivity is two fifth higher in an establishment with a fifty-year-old works council.

Columns (4) to (6) of Table 5 provide estimates of the determinants of the quit rate. The determinants were estimated with the tobit procedure. While the proportion of female employees is a positive covariate of the quit rate, the share

4. Building on the specification shown in Table 3, we include control variables for the influence of unions and the support by the workforce. However, we make two minor changes to the specification in order to improve the estimations. First, we use a different specification of establishment size. Second, we remove the dummy variable for positive employment growth during the last three years.

Table 6

Projections on Establishment Performance

Dependent Variables Age of Works Council	(1) Projected Productivity in Euros	(2) Projected Quit Rate
1	109853	.036
5	121455	.034
10	135185	.031
20	157456	.026
30	168957	.022
40	166992	.019
50	154523	.016

Productivity is projected using the estimated coefficients in column (3) of Table 5. The quit rates are projected using the estimated coefficients in column (6) of Table 5. All of the other control variables are assumed to be at their mean level.

of university graduates and the share of skilled blue-collar workers are negative determinants. Establishments that are parts of multi-establishment firms appear to have a lower quit rate.

In regression (4), the simple dummy variable for the presence of a works council does not emerge with significant coefficient. This may reflect the sometimes mixed results found in other studies on works councils and personnel turnover.[5] However, as regressions (5) and (6) make clear, the simple dummy hides the dynamic dimension of codetermination. While regression (5) uses the full sample of establishments, regression (6) is based on the subsample of establishments where a council is present. Both regressions yield a very similar pattern of results. The age of the works council is a significantly negative determinant of the quit rate. An experienced works council may be more helpful in implementing an effective personnel management. This in turn results in increased job satisfaction and reduced fluctuation. However, the squared age variable does not emerge as a statistically significant covariate of the quit rate. Hence, this regression fails to provide evidence of a codetermination life cycle.

In column (2) of Table 6, the estimated coefficients of regression (6) are used to calculate projections on the quit rate for different ages of the works council. The control variables are again assumed to be at their mean level. Moreover, as the coefficient on the squared age variable is statistically insignificant, the squared age of the works council is also assumed to be at its mean level. After a council has been implemented, the quit rate decreases by roughly one tenth within the first ten years. A thirty-year-old works council is associated with a decrease in the quit rate by almost two fifth.[6]

5. See for example the studies by Frick and Moeller (2003) and Kraft and Lang (2008).
6. Note that the tobit model is a nonlinear model. Hence, even if the squared age variable is held constant, the relationship between the council's age and the predicted quit rate is nonlinear.

4.3 Testing for an (Inversely) U-Shaped Influence

Our estimates indicate that the works council's age has a u-shaped effect on bad industrial relations and an inversely u-shaped effect on productivity and decision power. However, Lind and Mehlum (2010) argue that the combination of a significant negative (positive) coefficient on a linear term and a significant positive (negative) coefficient on a squared term does not necessarily demonstrate an (inversely) u-shaped effect. They formalize a test for the presence of such effect. Confirmation of the (inversely) u-shaped relationship requires that the implied peak be within the range of observed values and be sufficiently to the center of the range that the implied curvature results in a significant negative (positive) slope left of the peak and a significant positive (negative) slope right of the peak. As it is clear that the implied peaks are within the range of the age variable, we implement Lind and Mehlum's test. It follows from testing the composite null hypothesis that the slope left of the peak is non-negative (non-positive) and/or the slope right of the peak is non-positive (non-negative) against the alternative of a negative (positive) slope to the left and a positive (negative) slope to the right. The estimates based on our data solidly reject the composite null hypothesis. In both regressions on the quality of industrial relations it is rejected with a p-value of 0.02, and in the productivity regression with a p-value of 0.07. Thus, the formal test as well as the appearance from the projections indicates the presence of an (inversely) u-shaped effect.

4.4 Age of the Works Council vs. Age of the Establishment

The age of the council and the age of the establishment are positively correlated. In our data, the correlation coefficient is equal to 0.67. To ensure that our results do not simply capture the age of the establishment, we reestimated all regressions by adding establishment age (and its square) as a further control. Although this can potentially involve problems of collinearity, the pattern of results on our key variables (the age and the squared age of the works council) remained remarkably robust. Moreover, establishment age did not emerge with a significant coefficient in any of the regressions. Hence, we are confident that our findings indeed capture the effects of the council's age.

5. CONCLUSIONS

While the number of econometric studies on works councils is remarkably increasing, those studies are essentially silent on the role of learning. This article provides evidence that codetermination involves an important dynamic dimension. The quality of industrial relations and the performance-enhancing effect of

codetermination are increasing in the age of the works council for a long period of time. However, our estimates also provide evidence of a codetermination life cycle. After about thirty years the quality of the relationship with management and the effect on establishment performance decrease to some extent.

Our results show the functioning of codetermination in Germany in a fresh and differentiated light. As stressed in the introduction, recent studies obtain neutral or positive effects of works councils on establishment performance. Neutral effects are typically obtained by studies examining the economic consequences of newly created councils (e.g., Addison et al. 2004). Against the background of our findings this does not come as a surprise. If the economic effects of newly created works councils are less strong, studies focusing on newly created councils may fail to find any effect. The results of those studies cannot be generalized to the entire population of works councils.

Our analysis may also shed light on the functioning of codetermination in international perspective. Indeed, studies on European works councils (EWCs) suggest that the provision of training for worker representatives is an important issue in negotiating EWC agreements (Gilman and Marginson 2002). This indicates that learning is important also for this type of works council.

Finally, we recognize the need for continued research within the theme. Future research could fruitfully build on panel data. Panel data would allow observing the circumstances when the council was created. It would be possible to examine if the path of the learning process depends on the initial conditions. Moreover, panel data would allow taking into account the development of moderating influences over time. The role of structural breaks reinforcing or mitigating the codetermination life could be examined.

REFERENCES

Adams, Roy J. (1985). Should Works Councils Be Used as Industrial Relations Policy? *Monthly Labor Review*. 108: 25–29.

Addison, J.T., L. Bellmann, C. Schnabel and J. Wagner (2004). The Reform of the German Works Constitution Act: A Critical Assessment, *Industrial Relations*. 43: 125–148.

Addison, J.T., C. Schnabel and J. Wagner (2007). The (Parlous) State of German Unions, *Journal of Labor Research*. 27: 3–18.

Addison, J.T., C. Schnabel and J. Wagner (2001). Works Councils in Germany: Their Effects on Firm Performance, *Oxford Economic Papers*. 53: 659–694.

Askildsen, Jan Erik, Uwe Jirjahn and Stephen C. Smith (2006). Works Councils and Environmental Investment: Theory and Evidence from German Panel Data, *Journal of Economic Behavior and Organization*. 60: 346–372.

Ben-Ner, A. and S. Lluis (2011). Learning: What and How? An Empirical Study of Adjustments in Workplace Organization Structure, *Industrial Relations*. 50: 76–108.

Bennedsen, M., K.M. Nielsen, F. Perez-Gonzalez and D. Wolfenzon (2007). Inside the Family Firm: The Role of Families in Succession Decisions and Performance, *Quarterly Journal of Economics*. 122: 647–691.

Benz, M. and B.S. Frey (2004). Being Independent Raises Happiness at Work, *Swedish Economic Policy Review*. 11: 95–134.

Cramton, P. and J. Tracy (2003). Unions, Bargaining and Strikes, in J.T. Addison and C. Schnabel eds., *International Handbook of Trade Unions*. Edward Elgar: 86–117.

Cross, John G. (1977). Negotiation as a Learning Process, *Journal of Conflict Resolution*. 21: 581–606.

Crossan, Mary, Henry Lane and Roderick White (1999). An Organizational Learning Framework: From Intuition to Institution, *Academy of Management Review*. 24: 522–537.

Eriksson, Tor. (2003). The Effects of New Work Practices: Evidence from Employer-Employee Data, in Takao Kato and Jeff Pliskin eds., *Advances in the Economic Analysis of Participatory and Labor-Managed Firms*. Vol. 7. Amsterdam: Elsevier pp. 3–30.

FitzRoy, Felix and Kornelius Kraft (2005). Codetermination, Efficiency and Productivity, *British Journal of Industrial Relations*. 43: 145–160.

Freeman, Richard B. and Edward P. Lazear (1995). An Economic Analysis of Works Councils, in J. Rogers and W. Streeck eds., *Works Councils – Consultation, Representation and Cooperation*. Chicago: University of Chicago Press: 27–52.

Freeman, R.B. and J. Rogers (1999). *What Workers Want*. Cornell University Press ILR Press.

Frick, Bernd and Iris Moeller (2003). Mandated Works Councils and Firm Performance: Labor Productivity and Personnel Turnover in German Establishments, *Journal of Applied Social Science Studies*. 123: 423–454.

Gilman, Mark and Paul Marginson (2002). Negotiating European Works Councils: Contours of Constrained Choice, *Industrial Relations Journal*. 33: 36–51.

Helper, Susan. (1998). "Complementarity and Cost Reduction: Evidence from the Auto Supply Industry," NBER Working Paper No. 6033. Cambridge, MA.

Heywood, John S., Olaf Huebler and Uwe Jirjahn (1998). Variable Payment Schemes and Industrial Relations: Evidence from Germany, *Kyklos*. 51: 237–257.

Heywood, John S. and Uwe Jirjahn (2009). Family-Friendly Practices and Worker Representation in Germany, *Industrial Relations*. 48: 121–145.

Heywood, John S. and Uwe Jirjahn (2002). Payment Schemes and Gender in Germany, *Industrial and Labor Relations Review*. 56: 44–64.

Huebler, O. and U. Jirjahn (2003). Works Councils and Collective Bargaining in Germany: The Impact on Productivity and Wages, *Scottish Journal of Political Economy*. 50: 1–21.

Jirjahn, Uwe. (2010). Works Councils and Employment Growth in German Establishments, *Cambridge Journal of Economics*. 34: 475–500.

Jirjahn, Uwe. (2009). The Introduction of Works Councils in German Establishments – Rent Seeking or Rent Protection?, *British Journal of Industrial Relations*. 47: 521–545.

Jirjahn, Uwe and Kornelius Kraft (2011). "Do Spillovers Stimulate Incremental or Drastic Product Innovations? Evidence from German Establishment Data," *Oxford Bulletin of Economics and Statistics*, Forthcoming.

Jirjahn, Uwe and Kornelius Kraft (2007). Intra-Firm Wage Dispersion and Firm Performance – Is There a Uniform Relationship?, *Kyklos*. 60: 231–253.

Jirjahn, Uwe and Georgi Tsertsvadze (2006). Betriebsraete und Arbeitszufriedenheit, *Jahrbuecher fuer Nationaloekonomie und Statistik*. 226: 537–561.

Jones, Derek and Takao Kato (1995). The Productivity Effects of Employee Stock-Ownership Plans and Bonuses: Evidence from Japanese Panel Data, *American Economic Review*. 85: 391–414.

Kato, Takao. (2006). Determinants of the Extent of Participatory Employment Practices: Evidence from Japan, *Industrial Relations*. 45: 579–605.

Kato, T. and M. Morishima (2002). The Productivity Effects of Participatory Employment Practices: Evidence from New Japanese Panel Data, *Industrial Relations*. 41: 487–520.

Kennan, John and Robert Wilson (1993). Bargaining with Private Information, *Journal of Economic Literature*. 31: 45–104.

Kleiner, Morris M. and Young-Myon Lee (1997). Works Councils and Unionization: Lessons from South Korea, *Industrial Relations*. 36: 1–16.

Kraft, Kornelius and Julia Lang (2008). The Causes and Consequences of Adopting a Works Council, *Jahrbuecher fur Nationaloekonomie and Statistik – Journal of Economics and Statistics*. 228: 512–532.

Lind, J.T. and H. Mehlum (2010). ''With or Without U?'' The Appropriate Test for a U-Shaped Relationship, *Oxford Bulletin of Economics and Statistics*. 72: 109–118.

Lorenz, Edward. (1999). Trust, Contract and Economic Cooperation, *Cambridge Journal of Economics*. 23: 301–315.

Mohrenweiser, Jens, Paul Marginson and Uschi Backes-Gellner (2011). What Triggers the Establishment of a Works Council, *Economic and Industrial Democracy*, Forthcoming.

Mueller, Steffen. (2011). Are the Firm Owners Really Worse Off with a Works Council?, *British Journal of Industrial Relations*, Forthcoming.

Mueller-Jentsch, Walther. (1995). Germany: From Collective Voice to Co-Management, in J. Rogers and W. Streeck eds., *Works Councils-Consultation, Representation and Cooperation in Industrial Relations*. Chicago: University of Chicago Press: 53–78.

Osterloh, Margit and Bruno S. Frey (2006). Shareholders Should Welcome Knowledge Workers as Directors, *Journal of Management and Governance*. 10: 325–345.

Rogers, J. and W. Streeck (1995). *Works Councils – Consultation, Representation and Cooperation*. Chicago: University of Chicago Press.

Schloemer, N., R. Kay, U. Backes-Gellner, W. Rudolph and W. Wassermann (2007). *Mittelstand und Mitbestimmung: Unternehmensfuehrung, Mitbestimmung und Beteiligung in mittelstaendischen Unternehmen*. Muenster: Westfaelisches Dampfboot.

Singell, L.D. and J. Thornton (1997). Nepotism, Discrimination and the Persistence of Utility-Maximization, Owner-Operated Firms, *Southern Economic Journal*. 63: 904–919.

Smith, Stephen C. (2006). Employee Participation Rights in Corporate Governance: Economic Rationale, a Test of a Leading Theory, and Some Modest Policy Proposals, in Panu Kalmi and Mark Klinedinst eds., *Advances in the Economic Analysis of Participatory and Labor Managed Firms*. Amsterdam: Elsevier: 105–146.

Sorensen, Jesper B. and Toby E. Stuart (2000). Aging, Obsolescence and Organizational Innovation, *Administrative Science Quarterly*. 45: 81–112.

Strauss, George. (2006). Worker Participation – Some Under-Considered Issues, *Industrial Relations*. 45: 778–803.

Thornhill, Stewart and Raphael Amit (2003). Learning About Failure: Bankruptcy, Firm Age and the Resource-Based View, *Organization Science*. 14: 497–509.

Wagner, Joachim. (2008). German Works Councils and Productivity: First Evidence from a Nonparametric Test, *Applied Economics Letters*. 15: 727–730.

SUMMARY

This study provides the first econometric analysis on the dynamic dimension of establishment-level codetermination in Germany. We hypothesize that learning implies a change in the nature and scope of codetermination over time. Using unique data from small- and medium-sized establishments, our empirical analysis provides strong evidence that learning indeed plays a crucial role in the functioning of works councils. First, the probability of an adversarial relationship between management and works council is decreasing in the age of the council. Second, the council's age is positively associated with the probability that the council has an influence even on decisions where it has no legal powers. Third, productivity is increasing in the age of the council. Fourth, the quit rate is decreasing in the age of the council. However, the estimates also provide evidence of a codetermination life cycle.

